AKTAKOM

SOUND LEVEL METER

ATE-9051

User's Manual

1. SAFETY INFORMATION

Read the following safety information carefully before attempting to operate or service the meter.

Use the meter only as specified in this manual：

- **Environment conditions**

  ① Altitude lower than 2000 meters

  ② Relatively humidity ≤90％RH

  ③ Operation Ambient 0 ~ 40℃

- **Maintenance & Clearing**

  ① Repair or servicing not covered in this manual should be performed by qualified personnel. ② Periodically wipe the case with a dry cloth. Do not use solvents or eradicator on this instrument.

- **Safety symbols**

  Comply with EMC

2. FUNCTIONS DESCRIPTION

This Sound Level Meter is designed for noise project; quality control; illness prevention and cure and all kinds of environmental sounds measurement.It is applied to the sounds measurement at factory; school; office; traffic access and household, etc.

- This unit confirms to the IEC61672-1 CLASS2 for Sound Level Meters.
- MAX & MIN measurements
- Over range display
- Under range display
- A & C Weighting
- FAST & SLOW response
- Analog AC/DC outputs for connection to frequency analyzer or X-Y shaft recorder

3. SPECIFICATION

Standard applied: IEC61672 -1 CLASS2

Accuracy: ±1.4dB

Frequency range: 31.5HZ ~ 8KHZ

Dynamic range: 50dB

Level ranges: LO : 30dB~80dB Med : 50dB~100dB

Hi：80dB~130dB

Auto：30dB~130dB

Frequency weighting: A/C

Time weighting: FAST (125ms), SLOW (1s)

Microphone: 1/2 inch electret condenser microphone

Display: 4 digits LCD display with a resolution of 0.1dB

Display Update: 2 times/sec.

MAX hold: Hold the Maximum reading **MIN hold:** Hold the Minimum reading **HOLD:** Hold the readings

Alarm function: "OVER"is when input is more than upper limit of range.

"UNDER"is when input is less than upper limit of range.

Analog output : AC/DC outputs from earphone outlet

AC=1Vrms ，DC=10mV/dB

Data output : USB data traffic

Auto power off : Meter automatically shuts down after approx. 15 minutes of inactivity.

Power supply : One 9V battery, 006P or NEDA1604 or IEC 6F22.

Power life : About 30hours

Operation temperature and humidity:

0℃~40℃,10%RH~90%RH

Storage temperature and temperature:

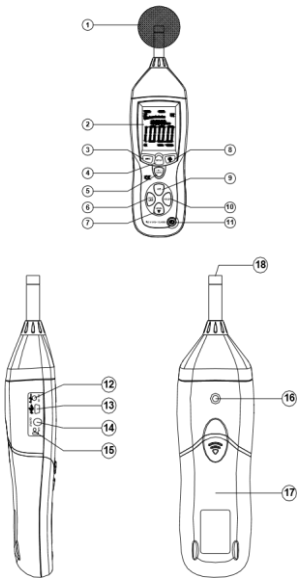
-10℃~+60℃，10%RH~75%RH

Dimension : 278 (L) x 76 (W) x 50(H) mm

Weight : 350g

Accessories : Instruction manual, battery, screwdriver, ¢ 3.5mm earphone plug, windscreen, software, USB cable, tripod and DC 9V power supply.

4. NAME AND FUNCTIONS



① **Windscreen**

② **LCD**：

SYMBOL	FUNCTION
LCD	4 digits
MAX	Maximum hold
MIN	Minimum hold
OVER	over range
UNDER	under range

FAST	Fast response
SLOW	Slow response
dBA	A-Weighting(responseto human sense)
dBC	C-Weighting(response to machine monitor)
88—180	Range indicate
REC	Recording data into computer
AUTO	Auto level range selection
FULL	Memory full
HOLD	Data hold function
	AutopoweroffPress the"SETUP" button to disable power off
	Low battery indicate

③REC **button**

3.0 DATALOGGER function

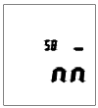
Press “REC” button after it power on, the display will show “REC” to start Data Recording , press the button again to delet the record (Note: In order to avoid data error, please don’t power it off under REC condition, when the REC function is deleted then it can power off).

④SETUP button

4．0．The time chip adjustment

Press‘SETUP’button and then power it on，when‘TIME’ symbol displays then loosen‘SETUP，’the meter will be under time adjustment mode，at the time the display will show the date as following：

Press the‘SETUP’button second time, the display showing：



The display showing “minute” adjustment mode, press ‘LEVEL’ to make the adjustment，press ‘HOLD’to keep the setup；

Press the‘SETUP’button third time, the display showing：

The display showing “hour” adjustment mode, press ‘LEVEL’ to make the adjustment，press‘HOLD’to keep the setup；

Press the‘SETUP’button fourth time, the display showing

The display showing “date” adjustment mode, press ‘LEVEL’ to make the adjustment，press‘HOLD’to keep

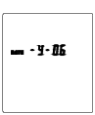
the setup ;

Press the‘SETUP’button fifth time, the display showing :

The display showing “month” adjustment mode, press ‘LEVEL’ to make the adjustment , press ‘HOLD’ to keep

the setup ;

Press the‘SETUP’button sixth time, the display showing :



The display showing “year” adjustment mode, press ‘LEVEL’ to make the adjustment , press ‘HOLD’to keep

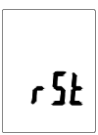
the setup ;

Press the‘SETUP’button seventh and eighth time, the

display showing separately as following：

The display showing default range, which can't be adjusted.

Press the'SETUP'button ninth time, the display showing：



The display showing initialization of the time chip , time and date have returned to factory setup. When the battery is exhausted or replaced, if the time can't be adjusted then please initialize the time chip first. 4．1．USB communications setting：turn on the meter, connect the meter with the computer correctly, choose the

software COM3（COM4），then press ‘SETUP’，‘’ disappears from the display to indicate and disable auto power off, that the USB data is transmitting.

⑤ FAST/SLOW button:

time weighting selection

FAST：Fast sampling measurement, 1 time per 125mS.

SLOW：Slow sampling measurement, 1 time per second.

⑥MAX/MIN button: Maximum and Minimum hold

Press this button for one time to enter MAX/MIN measurement, ‘MAX’ will appear on LCD, maximum sound level will be captured and held until higher sound level is captured. Press the button again, ‘MIN’ will appear on LCD and minimum sound level will be captured and held until new lower sound level is captured. Press the button one more time to exit MAX/MIN measurement.

⑦ LEVEL **button: Level range selection**

Each time you press “LEVEL” button, the level range will change between ‘Lo’ level, ‘Med’ level, ‘Hi’ level and ‘Auto’ level in the circular.

⑧ **Backlight button**

Turn the backlight on/off

⑨ **Frequency weighting select button**

A : A-Weighting C : C-Weighting

⑩ **HOLD button:**

Press “HOLD” button, The hold function freezes the reading in the display.

⑾ Power button

Turn the meter power ON/OFF

⑿ **External DC 9V power supply terminal**

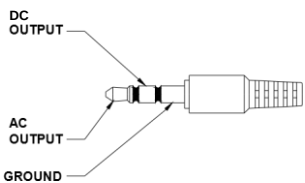
For connection with DC 9V power supply.

Aperture size: external diameter: 3.5mm, internal diameter: 1.35mm

USB interface

USB signal output is a 9600 bps serial interface.

⑭ AC/DC signal output earphone outlet



AC：Output voltage：1Vrms corresponding to each range step.

Output impedance：≒ 100Ω

DC：Output voltage：10mv/dB

Output impedance：≒ 1KΩ

⑮ **Calibration potentiometer** (CALL)

For external standard level calibration adjustments.

Tripod mounting screw
Battery cover
Microphone

1/2 inch Electret Condenser microphone

5. CALIBRATION PROCEDURES

①Make the following switch settings:

Frequency weighting: A-weighting

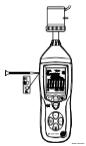
Time weighting: FAST

Level range: 50 ~100dB

②Insert the microphone housing carefully into the 1/2 inch insertion hole of the calibrator (94dB @ 1KHZ) .

③Turn on the switch of calibrator and adjust the CALL potentiometer of the unit 94.0dB is displayed.

NOTE: All products are well calibrated before shipment. Recommended recalibration cycle: 1 year.



6. MEASUREMENT PREPARATION

① Remove the battery cover on the back and put in one 9V battery.

② Recover the back cover.

③ When battery voltage drops below the operating voltage or battery aging, this symbol will appear on LCD. Replace the 9V battery.

④When the AC adapter is used, insert the plug of

the adapter （3.5φ）into the DC 9V connector on the side panel.

7. OPERATING PROCEDURE

① Power on the meter.

② Press ‘LEVEL’ button to select desired level, base on ‘UNDER’ or ‘OVER’ do not appear on LCD.

③ Select ‘dBA’ for general noise sound level and ‘dBC’ for measuring sound level of acoustic material.

④ Select ‘FAST’ for instant sound and ‘SLOW’ for average sound level.

⑤ Select ‘MAX/MIN’ button for measuring maximum and minimum noise level.

⑥ Hold the instrument comfortable in hand or fix on tripod and measure sound level at a distance of 1~1.5 meter.

8. NOTICE

i. Do not store or operate the instrument at high temperature and high humidity environment.

ii. When not in use for long time, please take

out the battery to avoid battery liquid leakage and cautery on the instrument.

iii. When using the instrument in the presence of wind, it is a must to mount the windscreen to not pick up undesirable signals.

iv. Keep microphone dry and avoid severe vibration.

9. accessories:

① installation CD

② USB interface cable

③ screwdriver

④ tripod

⑤ windscreen

⑥ DC 9V power supply.

10. Installing the software

1.0 Start windows

1.1 Insert the CD into the CD-drive.

1.2 Run SETUP.EXE installation program in file DISK1, install it to the referred directory

1.3 install CP2102 drive software :

Connecting the meter with the computer by USB interface, install CP2102 drive software in my computer property:\hardware\facility management\ COM CP210X USB.

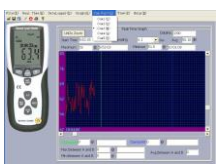
USB Drive Installation

1. Copy the CP2101WIN Drivers to a certain directory, such as: C:\
2. Connect the USB to the computer, the Windows system will show finding a new hardware. Choose specific directory C:\ usb_driver according to the instruction.
3. After Driver installation, a new COM port will be added to the Ports in the Device Manager. Port number will be ranged following the primary COM ports, such as: COM3 or COM4.
4. Entry IR365 Application and choose the correct COM port. Communication can be start after pressing ON-LINE.

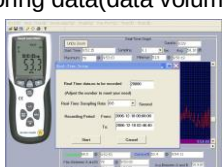
1.4 Once the drive software is installed, start the application software, connect the meter to the

computer by USB, then search for the COMX port occupied by CP210X， press

button , the‘ ’ symbol will not appear on the display , which indicate the meter is transmitting data to the computer.



1.5 Enter the menu REAL TIME\ ‘ SETUP ’ to set the monitoring data(data volume, response, monitoring time)



1.6 DATALOGGER menu:

The computer read the memory data in the meter when REC not appear on the display and the connection is in order.